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(54) Title: METHOD AND APPARATUS FOR THE FORMATION OF HYDROPHOBIC SURFACES

(57) Abstract: The invention relates to the application of a coating to a substrate in which the coating includes a polymer material and the coating is selectively fluorinated and/or cured to improve the liquid repellance of the same. The invention also provides for the selective fluorination and/or curing of selected areas of the coating thus, when completed, providing a coating which has regions of improved liquid repellance with respect to the remaining regions and which remaining regions may be utilised as liquid collection areas.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B05D3/04 B05D3/10 B05D3/14 B05D7/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 898 775 A (OKA JOJI ET AL) 6 February 1990 (1990-02-06) column 3, line 3-12; claims 1,2	1-10, 12-17, 22,26
Y		23-25, 27,28
A		11
Y	EP 0 834 352 A (CIBA GEIGY AG) 8 April 1998 (1998-04-08) claims 11,22,29	23-25, 27,28
Y	US 3 544 790 A (BROWN MARTIN J) 1 December 1970 (1970-12-01) claim 8	24
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 352 758 B1 (FONG BETTIE C ET AL) 5 March 2002 (2002-03-05) claims	3,7,11, 28
A	WO 99 32235 A (BTG INT LTD ;BADYAL JAS PAL SINGH (GB); HUTTON SIMON JAMES (GB)) 1 July 1999 (1999-07-01) claims 1-3	1,2

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No
PCT/GB 03/01257

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4898775	A	06-02-1990	JP 61248734 A AU 567414 B2 AU 5648686 A CA 1295888 C	06-11-1986 19-11-1987 30-10-1986 18-02-1992
EP 0834352	A	08-04-1998	EP 0834352 A1 AU 709598 B2 AU 1139997 A CA 2238345 A1 WO 9721497 A1 EP 0865326 A1 JP 2000503044 T US 6169127 B1	08-04-1998 02-09-1999 03-07-1997 19-06-1997 19-06-1997 23-09-1998 14-03-2000 02-01-2001
US 3544790	A	01-12-1970	US 3681103 A	01-08-1972
US 6352758	B1	05-03-2002	AU 3771299 A CA 2330116 A1 CN 1308652 T DE 69910021 D1 EP 1084178 A1 JP 2002513830 T WO 9957185 A1	23-11-1999 11-11-1999 15-08-2001 04-09-2003 21-03-2001 14-05-2002 11-11-1999
WO 9932235	A	01-07-1999	AT 240163 T AU 1770099 A DE 69814683 D1 DK 1042081 T3 EP 1042081 A1 WO 9932235 A1 JP 2001526312 T US 2002114954 A1 US 6358569 B1	15-05-2003 12-07-1999 18-06-2003 01-09-2003 11-10-2000 01-07-1999 18-12-2001 22-08-2002 19-03-2002